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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,398	03/31/2004	Alex Levin	42P12980DC	5375
8791 7590 01/22/2007 BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			EXAMINER SIEK, VUTHE	
			ART UNIT 2825	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/22/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/814,398

Applicant(s)

LEVIN ET AL.

Examiner

Vuthe Siek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 10 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application 10/814,398 and response filed on 10/31/2006. Claims 1-20 remain pending in the application.

Claim Objections

1. Claim 17 is objected to because of the following informalities: claim 17 should be dependent on claim 16 to correctly provide claim antecedent basis. Appropriate correction is required.

Response to Amendment

2. Applicant's arguments with respect to independent claim have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8, 11-14, 16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ang et al. (6,316,957B1).
4. As to claims 1 and 11, Ang et al. teach substantially the same an output driver (dynamic termination logic driver) (see summary) comprising a pull-up circuit coupled to

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a signal terminator device (Fig. 2, pull-up circuit 202), the pull-up circuit including pull-up compensation resistive element (col. 5 lines 5-33; Fig. 1, 5); and a pull-down circuit coupled to the signal termination, the pull-down circuit including a pull-down compensation resistive element (Fig. 2, pull-down circuit 204, Fig. 1, 11), where the pull-up and pull-down compensation resistive elements to provide analog compensation of output driver signal slew rate against device impedance variation (at least see col. 5 lines 5-33; col. 5 lines 48-52; col. 5 lines 60-67; col. 6 lines 1-3; col. 8 lines 1-46; col. 17 lines 7-67; col. 18 lines 1-17).

5. As to claims 2 and 16, at least Fig. 1-3, 5 and 11 show a pull-up pre-driver to selectively generate pull-up signals to cause a rising signal transition at the driver output pad; and a pull-down pre-driver to selectively generate pull-down signals to cause a falling signal transition at the driver output pad, such that a slew rate of a driver output signal is within a predetermined slew rate range (Fig. 3 shows pre-driver; see detailed description of the figures).

6. As to claims 3-4 and 12-13, at least Fig. 1 and 2 show a plurality of pull-up devices, each pull-up device coupled between a driver supply voltage and the signal termination device and a plurality of pull-down devices, each pull-down device coupled between a driver group and the signal termination device (at least see col. 5 lines 5-33; col. 48-52; col. 5 lines 60-67; col. 6 lines 1-3; col. 8 lines 1-46; col. 17 lines 7-67; col. 18 lines 1-17; Fig. 5, 11-12).

7. As to claims 5-6, at least Fig. 5 show the pull-up devices comprising a plurality of PMOS devices having a source coupled to the driver supply voltage, a drain coupled to

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the signal termination device and a gate to receive a pull-up signal to activate the PMOS device to generate a rising signal transmission at the driver output pad and a crowbar current using a falling signal transition at the driver output pad (at least see col. 5 lines 5-33; col. 48-52; col. 5 lines 60-67; col. 6 lines 1-3; col. 8 lines 1-46; col. 17 lines 7-67; col. 18 lines 1-17).

8. As to claims 7-8 and 14, Fig. 1-2 show the pull-up compensation resistive elements is coupled, in series, between a selected pull-up device and the signal terminal device; and the pull-up compensation resistive elements is coupled, in series, between a selected pull-down device and the signal termination device (at least see col. 5 lines 5-33; col. 48-52; col. 5 lines 60-67; col. 6 lines 1-3; col. 8 lines 1-46; col. 17 lines 7-67; col. 18 lines 1-17; Fig. 5, 11-12).

9. As to claims 18-20, Ang et al. teach the output driver is used a communication system, wherein the chipset comprising an I/O controller hub; a memory controller and an integrated driver electronic (IDE) output driver (Fig. 1).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being obvious over Ang et al. (6,316,957B1) in view of applicant admitted prior art. Ang et al. do not teach specifically teach the pull-up compensation resistive element and pull-down

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compensation resistive element are Nwell resistive elements, but applicant admitted that an Nwell structure is simple to create and consumes a relatively small die area (0003). With these motivations, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the resistive elements as taught by Ang et al. is Nwell resistive elements.

Allowable Subject Matter

12. Claims 10 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach or fairly suggest does not teach or fairly suggest a slew rate of a driver output signal is within a predetermined slew rate range and the predetermined slew rate range is between 0.4 volts per nanosecond (v/ns) and 1.0 v/ns.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VUTHE SIEK
PRIMARY EXAMINER